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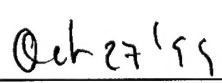
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Introduction

The most life-threatening aspect of cancer is its capacity to invade normal tissue and to establish new foci of tumor cells at distant sites. While there has been some progress in understanding some of the genetic and cellular mechanisms involved in the conversion of normal cells to metastatic tumor cells, little progress has been made in utilizing what has been learned of the molecular mechanisms of metastasis to reduce its impact upon morbidity and mortality. The objective of this work is to do that by developing novel gene therapy vectors selective for metastatic cells. Selectivity of the gene therapy vectors will rely upon metastatic cells expressing receptors to which the vectors can adsorb and upon the metastatic cells expressing signal transduction pathways which will activate vector gene expression.

Key Research Accomplishments — Reportable Outcomes

We are making the progress planned and described in the original application. Specifically:

Technical Objective 1:

We have constructed a polyomavirus vector with the firefly luciferase gene under the control of the viral enhancer and the viral promoters.

Technical Objective 2:

We have modified the polyomavirus VP1 protein to contain high affinity ligands for the uPA receptor. These are being expressed in *E. coli* and will then be placed in vectors capable of expression in insect cells. We will then measure the efficiency of capsomere formation and optimize capsid assembly with these proteins.

Technical Objective 3:

We have obtained the enzymatic machinery required to reconstruct chromatin with DNA containing the LUC gene under the control of the viral enhancer and during the next year will use it to reconstitute chromatin.